

#### ABSTRACT OF THE DISCLOSURE

A photoresist film 12 is formed on a substrate 10. In the photoresist film 12, an opening 13 having higher hydrophilicity and higher affinity with a chemical liquid 16 for swelling the photoresist film at upper part of the sidewall is formed down to the substrate 10. The chemical liquid 16 is reacted with the photoresist film 12 with the opening formed in to swell the photoresist film 16 to thereby reverse-taper the sidewall of the opening. Whereby the photoresist film having an opening diameter beyond a resolution of the photoresist material and the sidewall of the opening reverse-tapered can be easily formed.